American Journal of Physiology: Gastrointestinal and Liver Physiology

No. 1. JULY 1992

Duodenal intramural nerves in control of pyloric motility and gastric emptying
P. J. Treacy, G. G. Jamieson, J. Dent, P. G. Devitt, and R. Heddle G1

Increased lymphatic flux of hyaluronan from cat intestine during fat absorption
R. K. Reed, M. I. Townsley, V. H. Pitts, T. C. Laurent, and A. E. Taylor G6

Neurohormonal mechanism of pancreatic exocrine secretion stimulated by sodium oleate and L-tryptophan in dogs
Y. H. Jo, Y. L. Lee, K. Y. Lee, T.-M. Chang, and W. Y. Chey G12

Evidence for Kupffer cell migration along liver sinusoids, from high-resolution in vivo microscopy
P. J. MacPhee, E. E. Schmidt, and A. C. Groom G17

Effect of erythromycin on gastric myoelectrical activity in normal human subjects
J. Chen, P. Yeaton, and R. W. McCallum G24

Peptidergic nerves mediate post-nerve stimulation hyperemia in rat gut
O. D. Hottenstein, G. Remak, and E. D. Jacobson G29

Differential alterations in microvascular perfusion in various organs during early and late sepsis
P. Wang, M. Zhou, M. W. Rana, Z. F. Ba, and I. H. Chaudry G38

ATP induces two cholecystokinin binding affinity states in permeabilized rat pancreatic acini
G. T. Blevins, Jr. and J. A. Williams G44

Effects of erythromycin in the dog upper gastrointestinal tract
G. E. Holle, E. Steinbach, and W. Forth G52

Enhanced sinusoidal glutathione efflux during endotoxin-induced oxidant stress in vivo
H. Jaeschke G60

Gallbladder mucosal function: studies in absorption and secretion in humans and in dog gallbladder epithelium
H. Igimi, F. Yamamoto, and S. P. Lee G69

Renal failure increases gastric mucosal blood flow and acid secretion in rats: role of endothelium-derived nitric oxide
E. Quintero and P. H. Guth G75

Uptake of biotin by isolated rat liver mitochondria
H. M. Said, L. McAlister-Henn, R. Mohammadkhani, and D. W. Horne G81

Guanylate cyclase inhibitors: effect on inhibitory junction potentials in esophageal smooth muscle
J. L. Conklin and C. Du G87

Submucosal reflexes: distension-evoked ion transport in the guinea pig distal colon
T. Frieling, J. D. Wood, and H. J. Cooke G91

Guanylate cyclase inhibitors: effect on tone, relaxation, and cGMP content of lower esophageal sphincter
J. A. Murray, C. Du, A. Ledlow, P. L. Manternach, and J. L. Conklin G97

Cholecystokinin at physiological levels evokes pancreatic enzyme secretion via a cholinergic pathway
H. C. Soudah, Y. Lu, W. L. Hasler, and C. Owyang G102

Stimulation of intramural secretory reflex by luminal distension pressure in rat distal colon
S. Itasaka, K. Shiratori, T. Takahashi, M. Ishikawa, K. Kaneko, and Y. Suzuki G108

Role of chloride ions in lower esophageal sphincter tone and relaxation
J. K. Saha, J. N. Sengupta, and R. K. Goyal G115

Pregnancy- and lactation-induced changes in active intestinal calcium transport in rats
A. Boass, J. A. Lovdal, and S. U. Toverud G127

LETTERS TO THE EDITOR

Chloride-mediated inhibitory junction potentials in opossum esophageal circular smooth muscle
E. E. Daniel, J. Jury, F. Christinck, and F. Cayabyab; J. R. Crist, X. D. He, and R. K. Goyal G135

No. 2. AUGUST 1992

INVITED REVIEW

The liver as a stem cell and lineage system
S. H. Sigal, S. Brill, A. S. Fiorino, and L. M. Reid G139

Role of EDRF in splanchnic blood flow of normal and chronic portal hypertensive rats
F. Iwata, T. Joh, T. Kawai, and M. Itoh G149

Effect of aspirin on ulcer site blood flow in cat stomachs
A. T. S. Lau, G. G. Graham, R. O. Day, and M. A. Perry G155

Innervation of pylorus in control of motility and gastric emptying
G. E. Holle, D. Hahn, and W. Forth G161

Polyamine transport systems in isolated rat hepatocytes derived from resting and regenerating livers
G. Y. Minuk, A. Bennaroch, and L. X. Ding G169

Immunocytochemical studies suggest two pathways for enteroendocrine cell differentiation in the colon
K. A. Roth, S. Kim, and J. I. Gordon G174

Cardiac performance in the portal vein-stenosed rat
H. D. Battarbee and J. H. Zavecz G181

Regulation of gene expression in gastric epithelial cell populations of fetal, neonatal, and adult transgenic mice
K. A. Roth, S. M. Cohn, D. C. Rubin, J. F. Trahair, M. R. Neutra, and J. I. Gordon G186

Impaired acetylcholine release in the inflamed rat intestine is T cell independent
S. M. Collins, P. Blennerhassett, D. L. Vermillion, K. Davis, J. Langer, and P. B. Ernst G198

Changes in antroduodenal resistance induced by Cisapride in conscious dogs
C. H. Malbert, J. P. Serthelon, and J. Dent G202

Capsaicin-induced hyperemia in the stomach: possible contribution of mast cells
J. L. Wallace, G. W. McKnight, and A. D. Befus G209

Differential regulation of cytochrome *P*-450 genes along rat intestinal crypt-villus axis
P. G. Traber, W. Wang, and L. Yu G215

Polyamines attenuate jejunal mucosal injury induced by oleic acid
P. R. Kvietys, R. D. Specian, and G. Cepinskas G224

Measurement of axial forces during emptying from the human stomach
M. J. Vassallo, M. Camilleri, C. M. Prather, R. B. Hanson, and G. M. Thomforde G230

Bombesin receptors interact with G_i and $p21^{ras}$ proteins in plasma membranes from rat pancreatic acinar cells
A. Pröfrock, P. Zimmermann, and I. Schulz G240

Preservation and propagation of cyclic myoelectric activity after feeding in rat small intestine
M. E. Zenilman, J. E. Parodi, and J. M. Becker G248

Influence of luminal nutrient composition on hemodynamics and oxygenation in developing intestine
K. D. Crissinger and D. L. Burney G254

Two-dimensional coupling by gap junctions in cultured gastric smooth muscle monolayers
D. M. Larson, R. J. Gilbert, and E. C. Beyer G261

Characterization of opioid receptors in intestinal muscle cells by selective radioligands and receptor protection
J. F. Kuemmerle and G. M. Makhlouf G269

RAPID COMMUNICATION

NADPH diaphorase and nitric oxide synthase colocalization in enteric neurons of canine proximal colon
S. M. Ward, C. Xue, C. W. Shuttleworth, D. S. Bredt, S. H. Snyder, and K. M. Sanders G277

ANNOUNCEMENTS G285

No. 3. SEPTEMBER 1992

Cholecystokinin inhibits gastric acid secretion through type "A" cholecystokinin receptors and somatostatin in rats
K. C. K. Lloyd, H. E. Raybould, and J. H. Walsh G287

Hypoxic liver injury and the ameliorating effects of fructose: the "glucose paradox" revisited
C. A. Brass, J. M. Crawford, J. Narciso, and J. L. Gollan G293

Regional differences in gut blood flow and mucosal damage in response to ischemia and reperfusion
F. W. Leung, K. C. Su, E. Passaro, Jr., and P. H. Guth G301

Ascending contraction mediated by 5-hydroxytryptamine$_3$ receptors in canine small intestine
M. Mizutani, T. Neya, and S. Nakayama G306

Expression and localization of GLUT-5 in Caco-2 cells, human small intestine, and colon
L. Mahraoui, M. Rousset, E. Dussaulx, D. Darmoul, A. Zweibaum, and E. Brot-Laroche G312

Subacinar distribution of hepatocyte membrane potential response to stimulation of gluconeogenesis
S.-M. Lee and M. G. Clemens G319

CCK, bombesin, and carbachol stimulate c-*fos*, c-*jun*, and c-*myc* oncogene expression in rat pancreatic acini
L. Lu and C. D. Logsdon G327

Lytic effects of mixed micelles of fatty acids and bile acids
J. A. Lapré, D. S. M. L. Termont, A. K. Groen, and R. van der Meer G333

Carrier-mediated transport of tetrabromosulfonephthalein by rat liver plasma membrane vesicles
A. M. Torres, J. V. Rodriguez, G. C. Lunazzi, and C. Tiribelli G338

cDNA cloning and localization of a band 3-related protein from ileum
A. Chow, J. W. Dobbins, P. S. Aronson, and P. Igarashi G345

Effects of nerve stimulation and zymosan on glycogenolysis in perfused livers from cold-exposed rats
M. Shiota, Y. Kurano, Y. Mochizuki, K. Kimura, M. Ohta, and T. Sugano G353

A primary role for protein kinase A in smooth muscle relaxation induced by adrenergic agonists and neuropeptides
Z. F. Gu, R. T. Jensen, and P. N. Maton G360

Characterization of colonic circular smooth muscle cells in culture
H. S. Ennes, J. A. McRoberts, P. E. Hyman, and W. J. Snape, Jr. G365

Development of Ca^{2+} homeostasis in epithelial cells from embryonic and neonatal intestine
B. L. Black and J. O. Rogers G371

Sex differences in hepatic fatty acid uptake reflect a greater affinity of the transport system in females
D. Sorrentino, S.-L. Zhou, E. Kokkotou, and P. D. Berk G380

Bile salt hydrophobicity controls vesicle secretion rates and transformations in native bile
D. E. Cohen, L. S. Leighton, and M. C. Carey G386

Effects of agonists on $p21^{ras}$ and *ras*-related proteins in rat pancreatic acinar cells
P. Zimmermann, S. Schnefel, S. Zeuzem, A. Pröfrock, W. Haase, and I. Schulz G396

Rabbit esophageal cell cytoplasmic pH regulation: role of Na^+-H^+ antiport, and Na^+-dependent HCO_3^- transport systems
T. J. Layden, L. Schmidt, L. Agnone, P. Lisitza, J. Brewer, and J. L. Goldstein G407

Interleukin-1β acts at hypothalamic sites to inhibit gastric acid secretion in rats
E. Saperas, H. Yang, and Y. Taché G414

Mechanism of action of cholecystokinin octapeptide on cat lower esophageal sphincter
A. M. F. Salapatek, T. Hynna-Liepert, and N. E. Diamant G419

SPECIAL COMMUNICATION

Migration of IEC-6 cells: a model for mucosal healing
S. A. McCormack, M. J. Viar, and L. R. Johnson G426

No. 4. OCTOBER 1992

Rebound elevation of fibronectin after tissue injury and ischemia: role of fibronectin synthesis
P. N. Thompson, E. Cho, F. A. Blumenstock, D. M. Shah, and T. M. Saba G437

Role of prostaglandins in regulation of gastric mucosal blood flow and acid secretion
L. Holm and A. Jägare G446

Pepsinogen secretion from streptolysin O-permeabilized chief cells from guinea pig stomach
R. D. Raffaniello and J.-P. Raufman G452

Gastrin induction of histamine release from primary cultures of canine oxyntic mucosal cells
C.-N. Chuang, M. Tanner, M. C. Y. Chen, S. Davidson, and A. H. Soll G460

Rat intestinal angiotensin-converting enzyme: purification, properties, expression, and function
R. H. Erickson, Y. Suzuki, A. Sedlmayer, I. S. Song, and Y. S. Kim G466

Intestinal myoelectrical activity and transit time in chronic portal hypertension
J. J. Stewart, H. D. Battarbee, G. E. Farrar, and K. W. Betzing G474

Intestinal uptake and lymphatic absorption of β-carotene in ferrets: a model for human β-carotene metabolism
X.-D. Wang, N. I. Krinsky, R. P. Marini, G. Tang, J. Yu, R. Hurley, J. G. Fox, and R. M. Russell G480

Role of adenosine in postprandial and reactive hyperemia in canine jejunum
D. R. Sawmiller and C. C. Chou G487

Effect of putrescine on *S*-adenosylmethionine decarboxylase in a small intestinal crypt cell line
J.-Y. Wang, M. J. Viar, S. A. McCormack, and L. R. Johnson G494

Galanin-induced alteration of electrolyte transport in the rat intestine
T. Kiyohara, M. Okuno, H. Ishikawa, T. Nakanishi, Y. Shinomura, C. Yanaihara, and Y. Matsuzawa G502

Effects of thyrotropin-releasing hormone on neurons in rat dorsal motor nucleus of the vagus, in vitro
R. A. Travagli, R. A. Gillis, and S. Vicini G508

Effects of fractionated doses of ionizing radiation on colonic motor activity
M. F. Otterson, S. K. Sarna, S. C. Leming, J. E. Moulder, and J. G. Fink G518

Secretin stimulates bile ductular secretory activity through the cAMP system
R. Lenzen, G. Alpini, and N. Tavoloni G527

Response of migrating motor complex to variation of fasting intraluminal content
D. Smith, B. Waldron, and F. C. Campbell G533

Ontogeny of intestinal lactase: posttranslational regulation by thyroxine
T. Liu, A. M. Reisenauer, and R. O. Castillo G538

Pharmacology of portal-systemic collaterals in portal hypertensive rats: role of endothelium
P. Mosca, F.-Y. Lee, A. J. Kaumann, and R. J. Groszmann G544

Diaphragmatic contribution to gastroesophageal competence and reflux in dogs
C. J. Martin, W. J. Dodds, H. H. Liem, R. O. Dantas, R. D. Layman, and J. Dent G551

Effects of NH_4Cl and dimethylamine on Cl^- fluxes in resting and stimulated rat submandibular acinar cells
JC Seagrave, S. Barker, M. Curry, and J. R. Martinez G558

Mouse hepatocyte membrane potential and chloride activity during osmotic stress
K. Wang and R. Wondergem G566

Vulnerability of intestinal interstitial fluid to oxidant stress
H. Kurtel, D. N. Granger, P. Tso, and M. B. Grisham G573

Antibodies to tumor necrosis factor-α inhibit liver regeneration after partial hepatectomy
P. Akerman, P. Cote, S. Q. Yang, C. McClain, S. Nelson, G. J. Bagby, and A. M. Diehl G579

No. 5. NOVEMBER 1992

Role of platelet-activating factor in hepatic responses after bile duct ligation in rats
W. Zhou, W. Chao, B. A. Levine, and M. S. Olson G587

Ontogenetic development of nutrient transporters in rat intestine
E. M. Toloza and J. Diamond G593

Ontogenetic development of nutrient transporters in cat intestine
R. K. Buddington and J. Diamond G605

Glutathione as a primary osmotic driving force in hepatic bile formation
N. Ballatori and A. T. Truong G617

Constitutive expression of the taurine transporter in a human colon carcinoma cell line
C. Tiruppathi, M. Brandsch, Y. Miyamoto, V. Ganapathy, and F. H. Leibach G625

Histamine potentiation by hydroxylamines: structure-activity relations; inhibition of diamine oxidase
P. K. Rangachari, T. Prior, R. A. Bell, and T. Huynh G632

Importance of the liver in plasma clearance of hepatocyte growth factor in rats
K.-X. Liu, Y. Kato, M. Narukawa, D. C. Kim, M. Hanano, O. Higuchi, T. Nakamura, and Y. Sugiyama G642

Connexins and glucagon receptors during development of rat hepatic acinus
V. M. Berthoud, V. Iwanij, A. M. Garcia, and J. C. Sáez G650

Neurokinin$_3$ receptor regulation of acetylcholine release from myenteric plexus
W. M. Yau, K. G. Mandel, J. A. Dorsett, and M. L. Youther G659

Intestinal absorption and lymphatic transport of peroxidized lipids in rats: effect of exogenous GSH
T. Y. Aw and M. W. Williams G665

Symptomatic responses to stimulation of sensory pathways in the jejunum
A. M. Accarino, F. Azpiroz, and J.-R. Malagelada G673

Neuropeptides promote neutrophil adherence to endothelial cell monolayers
B. J. Zimmerman, D. C. Anderson, and D. N. Granger G678

Sphincter of Oddi regulates flow by acting as a variable resistor to flow
Y.-F. Liu, G. T. P. Saccone, A. Thune, R. A. Baker, J. R. Harvey, and J. Toouli G683

Effect of increased tissue oxygen uptake on autoregulation in postnatal intestine
P. T. Nowicki and C. E. Miller G690

Structural requirements of peptide YY for biological activity at enteric sites
K. Yoshinaga, T. Mochizuki, N. Yanaihara, K. Oshima, M. Izukura, M. Kogire, S. Sumi, G. Gomez, T. Uchida, J. C. Thompson, and G. H. Greeley, Jr. G695

Passive autoregulation of portal venous pressure: distensible hepatic resistance
W. W. Lautt and D. J. Legare G702

Electrophysiological identification of vagally innervated enteric neurons in guinea pig stomach
M. Schemann and D. Grundy G709

Helicobacter pylori-associated ammonia production enhances neutrophil-dependent gastric mucosal cell injury
M. Suzuki, S. Miura, M. Suematsu, D. Fukumura, I. Kurose, H. Suzuki, A. Kai, Y. Kudoh, M. Ohashi, and M. Tsuchiya G719

Hypothalamic neuropeptide Y inhibits gastric acid output in rat: role of the autonomic nervous system
G. A. Humphreys, J. S. Davison, and W. L. Veale G726

A new method for quantitating intracellular transport: application to the thyroid hormone 3,5,3′-triiodothyronine
B. A. Luxon and R. A. Weisiger G733

Protein kinase C regulation of IEC-6 cell ornithine decarboxylase
G. E. Groblewski, D. K. Ways, and E. R. Seidel G742

Coordination of deglutition and phases of respiration: effect of aging, tachypnea, bolus volume, and chronic obstructive pulmonary disease
R. Shaker, Q. Li, J. Ren, W. F. Townsend, W. J. Dodds, B. J. Martin, M. K. Kern, and A. Rynders G750

Caco-2 cell transfection by rat intestinal alkaline phosphatase cDNA increases surfactant-like particles
C. C. Tietze, M. J. Becich, M. Engle, W. F. Stenson, A. Mahmood, R. Eliakim, and D. H. Alpers G756

Mechanisms of neurotensin-induced inhibition in rat ileal smooth muscle
H. D. Allescher, H. Fick, V. Schusdziarra, and M. Classen G767

Organic cation transport by rat liver plasma membrane vesicles: studies with tetraethylammonium
R. H. Moseley, S. M. Jarose, and P. Permoad G775

Cation channels in basolateral membrane of sheep parotid secretory cells
E. A. Wegman, T. Ishikawa, J. A. Young, and D. I. Cook G786

Biomechanical properties of duodenal wall and duodenal tone during phase I and phase II of the MMC
H. Gregersen, K. Orvar, and J. Christensen G795

Pharmacokinetics and organ specific metabolism of glycine-extended and amidated gastrin in sheep
G. D. Ciccotosto and A. Shulkes G802

SPECIAL COMMUNICATION

Limitations of laser-Doppler velocimetry and reflectance spectrophotometry in estimating gastric mucosal blood flow
M. Casadevall, J. Panés, J. M. Piqué, J. Bosch, J. Terés, and J. Rodés G810

RAPID COMMUNICATION

Novel sites for expression of an *Escherichia coli* heat-stable enterotoxin receptor in the developing rat
D. W. Laney, Jr., E. A. Mann, S. C. Dellon, D. R. Perkins, R. A. Giannella, and M. B. Cohen G816

No. 6. DECEMBER 1992

INVITED REVIEW

Regulation of electrolyte and fluid secretion in salivary acinar cells
B. Nauntofte G823

Actions of 5-hydroxytryptamine on myenteric neurons in guinea pig gastric antrum
J. F. Tack, J. Janssens, G. Vantrappen, and J. D. Wood G838

Neuroimmune interactions: role for cholinergic neurons in intestinal anaphylaxis
N. H. Javed, Y.-Z. Wang, and H. J. Cooke G847

Spatial analysis of transcriptional activation in fetal rat jejunal and ileal gut epithelium
D. C. Rubin G853

Human colon cancer cells express ICAM-1 in vivo and support LFA-1-dependent lymphocyte adhesion in vitro
C. P. Kelly, J. C. O'Keane, J. Orellana, P. C. Schroy III, S. Yang, J. T. LaMont, and H. R. Brady G864

Hepatic Na^+-dicarboxylate cotransport: identification, characterization, and acinar localization
R. H. Moseley, S. Jarose, and P. Permoad G871

Modulation of cat antral slow waves by ion substitution, Ca^{2+} and K^+ channel blockade, and ACh stimulation
L. M. Renzetti, M. B. Wang, and J. P. Ryan G880

Patterns of electrical activity and neural responses in canine proximal duodenum
O. Bayguinov, F. Vogalis, B. Morris, and K. M. Sanders G887

Differential effects of ATP-$MgCl_2$ on portal and hepatic arterial blood flow after hemorrhage and resuscitation
P. Wang, Z. F. Ba, and I. H. Chaudry G895

Chief cells possess a receptor with high affinity for PACAP and VIP that stimulates pepsinogen release
C. P. Felley, J.-M. Qian, S. Mantey, T. Pradhan, and R. T. Jensen G901

Somatostatin restraint of gastrin secretion in pigs revealed by monoclonal antibody immunoneutralization
J. J. Holst, P. N. Jørgensen, T. N. Rasmussen, and P. Schmidt G908

Osmolarity reduction transiently increases K^+ conductance of confluent rat hepatocytes in primary culture
F. Wehner, G. Beetz, and S. Rosin-Steiner G913

Aspirin-induced acute gastric mucosal injury is a neutrophil-dependent process in rats
M. Lee, K. Aldred, E. Lee, and M. Feldman G920

Uptake and metabolism of circulating fatty acids by rat intestine
C. M. Mansbach II and R. F. Dowell G927

Differential expression of early response genes, c-*jun*, c-*fos*, and *jun* B, in A5 cells
C.-K. Yeh, I. S. Ambudkar, and E. Kousvelari G934

Organic cation transport by rat hepatocyte basolateral membrane vesicles
T. D. McKinney and M. A. Hosford G939

Serum complement mediates endotoxin-induced cysteinyl leukotriene formation in rats in vivo
H. Jaeschke, M. J. Raftery, U. Justesen, and S. J. Gaskell G947

Myogenic mechanism for peristalsis in opossum smooth muscle esophagus
J. F. Helm, S. L. Bro, W. J. Dodds, S. K. Sarna, and R. G. Hoffmann G953

L-Glutamine with D-glucose stimulates oxidative metabolism and NaCl absorption in piglet jejunum
J. M. Rhoads, E. O. Keku, J. P. Woodard, S. I. Bangdiwala, J. G. Lecce, and J. T. Gatzy G960

RAPID COMMUNICATION

Characterization of H_2 histamine receptor: linkage to both adenylate cyclase and $[Ca^{2+}]_i$ signaling systems
J. DelValle, L. Wang, I. Gantz, and T. Yamada G967

Subject Index to Volume 26 G973
Author Index to Volume 26 G981